AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the Application:

Claims 1-40 (cancelled)

Claim 41 (currently amended): A bill payment system comprising:

a biller generating at least one invoice for at least one customer, said invoice comprising a unique bar code, said bar code comprising data identifying at least said customer and said biller; and

a scanning apparatus configured to permit a cashier to scan said bar code, said scanning apparatus being capable, based on the identifying data of said bar code and a payment made to said cashier by said customer in person, of ~~concurrently~~ transmitting or initiating transfer of funds to said biller in a predetermined amount and concomitantly transmitting or initiating transfer of data to said biller regarding said payment.

Claim 42 (previously amended): A system according to claim 41, wherein said funds are transmitted or transferred as an electronic funds transfer.

Claim 43 (previously amended): A system according to claim 41, wherein said funds are transmitted or transferred via the Automated Clearing House.

Claim 44 (previously added): A system according to claim 41, wherein said bar code comprises a plurality of validation levels.

Claim 45 (currently amended): A system according to claim 41, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

Claim 46 (previously added): A system according to claim 41, wherein said apparatus is integrated into a point-of-sale system.

Claim 47 (previously added): A system according to claim 41, wherein said apparatus is in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 48 (previously added): A system according to claim 41, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 49 (previously added): A system according to claim 41, wherein said data identifying said biller is assigned by a central registry authority.

Claim 50 (previously added): A system according to claim 41, wherein said apparatus is configured to print a receipt evidencing said payment.

Claim 51 (currently amended): A bill payment method comprising:

generating an invoice for at least one customer, said invoice comprising a unique bar code, said bar code comprising data identifying at least said customer and said biller; and

permitting a third party to scan said bar code and, based on the identifying data of said bar code and a payment made by said customer <u>in person to said third party</u>, to ~~concurrently~~ transmit or initiate transmission of funds to said biller in a predetermined amount and <u>concomitantly</u> transmit or initiate transmission of data to said biller regarding said payment.

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Claim 52 (previously amended): A method according to claim 51, wherein said funds are transmitted or transferred as an electronic funds transfer.

Claim 53 (previously amended): A method according to claim 51, wherein said funds are transmitted or transferred via the Automated Clearing House.

Claim 54 (previously added): A method according to claim 51, wherein said bar code comprises a plurality of validation levels.

Claim 55 (currently amended): A method according to claim 51, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

Claim 56 (previously added): A method according to claim 51, wherein said scanning is performed at a point-of-sale system.

Claim 57 (previously added): A method according to claim 51, wherein said scanning is performed in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 58 (previously added): A method according to claim 51, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 59 (previously added): A method according to claim 51, wherein said data identifying said biller is assigned by a central registry authority.

Claim 60 (previously added): A method according to claim 51, further comprising printing a receipt evidencing said payment.

Claim 61 (currently amended): A bill payment network comprising:

a plurality of billers, each said biller generating an invoice for at least one customer, said invoice comprising a unique bar code, said bar code comprising data identifying at least said customer and said biller; and

a plurality of third parties in communication with said billers, each said third party capable of scanning said bar code and, based on the identifying data of said bar code and a payment made by said customer in person to said third party, of ~~concurrently~~ transmitting or initiating transfer of funds to said biller in a predetermined amount and concomitantly transmitting or initiating transfer of data to said biller regarding said payment.

Claim 62 (previously amended): A network according to claim 61, wherein said funds are transferred or transmitted as an electronic funds transfer.

Claim 63 (previously amended): A network according to claim 61, wherein said funds are transferred or transmitted via the Automated Clearing House.

Claim 64 (previously added): A network according to claim 61, wherein said bar code comprises a plurality of validation levels.

Claim 65 (previously added): A network according to claim 61, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

Claim 66 (previously added): A network according to claim 61, wherein said third party is capable of performing said scanning using a point-of-sale system.

Claim 67 (previously added): A network according to claim 61, wherein said third party is in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 68 (previously added): A network according to claim 61, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 69 (previously added) A network according to claim 61, wherein said data identifying said biller is assigned by a central registry authority.

Claim 70 (previously added): A network according to claim 61, wherein said third party is configured to print a receipt evidencing said payment.

Claim 71 (currently amended): A bill payment method comprising:

receiving an invoice ~~from a biller, said invoice~~ comprising a unique bar code, said bar code comprising data identifying at least a customer and ~~said~~ a biller;

scanning said bar code;

receiving a payment from said customer in person; and

~~permitting a third party in communication with said biller to scan said bar code and~~ based on the identifying data of said bar code and a said payment, ~~made by said customer, to concurrently transmit or initiate~~ transmitting or initiating transfer of funds to said biller in a predetermined amount and ~~transmit or initiate~~ concomitantly transmitting or initiating transfer of data to said biller regarding said payment.

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Claim 72 (previously amended): A method according to claim 71, wherein said funds are transferred or transmitted as an electronic funds transfer.

Claim 73 (previously amended): A method according to claim 71, wherein said funds are transferred or transmitted via the Automated Clearing House.

Claim 74 (previously added): A method according to claim 71, wherein said bar code comprises a plurality of validation levels.

Claim 75 (previously added): A method according to claim 71, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

Claim 76 (previously added): A method according to claim 71, wherein said scanning is performed at a point-of-sale system.

Claim 77 (previously added): A method according to claim 71, wherein said scanning is performed in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 78 (previously added): A method according to claim 71, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 79 (previously added): A method according to claim 71, wherein said data identifying said biller is assigned by a central registry authority.

Claim 80 (previously added): A method according to claim 71, further comprising printing a receipt evidencing said payment.

Claim 81 (currently amended): A payment network comprising:

~~at least one payor;~~

~~at least one payee maintaining an account corresponding to said payor;~~

a payment system adapted ~~first to receive a payment from said payor, and subsequently,~~ to ~~simultaneously~~ transmit or initiate transfer of funds to ~~said~~ a payee in a predetermined amount based on ~~said~~ a payment <u>from a payor in the form of a physical payment instrument</u> and <u>concomitantly</u> transmit or initiate transfer of data to said payee regarding said payment, said data including the date and time said payment system received said payment from said payor; <u>and</u>

~~wherein said payee credits said~~ <u>a</u> payee accounts receivable system adapted to receive said data and to credit an account corresponding to said payor in the amount of said payment as of said date and time said payment system ~~receives~~ <u>received</u> said payment from said payor.

Claim 82 (currently amended): A bill payment network comprising:

~~at least one payor;~~

~~a plurality of billers, each said biller maintaining an account corresponding to at least one said payor;~~

a bill payment system adapted ~~first to receive a payment from at least one said payor, and subsequently,~~ to ~~simultaneously~~ transmit or initiate transfer of funds to ~~said~~ <u>a</u> biller in a predetermined amount based on ~~said~~ <u>a</u> payment <u>from a payor made in person via a cashier</u> and

concomitantly transmit or initiate transfer of data to said biller regarding said payment, said

data including the date and time said system received said payment; and

~~wherein said biller credits said~~ a biller accounts receivable system adapted to receive

said data and to credit an account corresponding to said payor in the amount of said payment as

of said date and time said bill payment system receives said payment from said payor.

Claim 83 (currently amended): A method of performing a financial transaction in a

network comprising, in sequence, the steps of: ~~A payment network comprising:~~

~~at least one payor;~~

~~at least one payee maintaining an account corresponding to said payor;~~

~~a payment system adapted first to receive~~ receiving a payment from ~~said~~ a payor~~, and~~

~~subsequently, to simultaneously transmit or initiate~~ in the form of a physical payment

instrument;

transmitting or initiating transfer of funds to ~~said~~ a payee in a predetermined amount

based on said payment and ~~transmit or initiate~~ concomitantly transmitting or initiating transfer

of data to said payee regarding said payment, said data including the date and time said

payment system received said payment from said payor; and

~~wherein said payee agrees to credit said account corresponding to said payor in the~~

~~amount of said payment as of said date and time said payment system receives said payment~~

~~from said payor~~ providing said data to a payee accounts receivable system.

Claim 84 (currently amended): A method of bill payment ~~network~~ comprising, in

sequence, the steps of:

~~at least one payor;~~

a plurality of billers, each said biller maintaining an account corresponding to at least one said payor;

a bill payment system adapted first to receive receiving a payment from at least one said payor, and subsequently, to simultaneously transmit or initiate from a payor made in person via a cashier;

transmitting or initiating transfer of funds to said a biller in a predetermined amount based on said payment and concomitantly transmit or initiate transmitting or initiating transfer of data to said biller regarding said payment, said data including the date and time said system received said payment from said payor;

wherein said biller agrees to credit said account corresponding to said payor in the amount of said payment as of said date and time said bill payment system receives said payment from said payor and providing said data to a biller accounts receivable system.

Claim 85 (currently amended): A payment network as claimed in claim 81, wherein said payment system transmits or initiates is adapted to transmit or initiate transfer of said data and said funds to said payee in said predetermined amount on the same calendar or business day or next calendar or business day following the date said payment system receives said payment from said payor, or within 24 hours or less of the date and time said payment system receives said payment from said payor.

Claim 86 (currently amended): A bill payment network as claimed in claim 82, wherein said bill payment system transmits or initiates is adapted to transmit or initiate transfer of said data and said funds to said biller in said predetermined amount on the same calendar or business day or next calendar or business day following the date said bill payment system

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receives said payment from said payor, or within 24 hours or less of the date and time said bill

payment system receives said payment from said payor.

Claim 87 (currently amended): A payment network as claimed in claim 83, wherein

said payment system ~~transmits or initiates~~ is adapted to transmit or initiate transfer of said data

and said funds to said payee in said predetermined amount on the same calendar or business

day or next calendar or business day following the date said payment system receives said

payment from said payor, or within 24 hours or less of the date and time said payment system

receives said payment from said payor.

Claim 88 (currently amended): A bill payment network as claimed in claim 84,

wherein said bill payment system ~~transmits or initiates~~ is adapted to transmit or initiate transfer

of said data and said funds to said biller in said predetermined amount on the same calendar or

business day or next calendar or business day following the date said bill payment system

receives said payment from said payor, or within 24 hours or less of the date and time said bill

payment system receives said payment from said payor.

Claim 89 (currently amended): A payment network as claimed in claim 81, wherein

said payment system ~~identifies~~ is adapted to identify the payee said payor is paying by scanning

a bar code comprising information corresponding to said payee.

Claim 90 (currently amended): A bill payment network as claimed in claim 82,

wherein said bill payment system ~~identifies~~ is adapted to identify the biller said payor is paying

by scanning a bar code comprising information corresponding to said biller.

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Claim 91 (currently amended): A payment network as claimed in claim 83, wherein said payment system ~~identifies~~ is adapted to identify the payee said payor is paying by scanning a bar code comprising information corresponding to said payee.

Claim 92 (currently amended): A bill payment network as claimed in claim 84, wherein said bill payment system ~~identifies~~ is adapted to identify the biller said payor is paying by scanning a bar code comprising information corresponding to said biller.

Claim 93 (cancelled)

Claim 94 (previously added): A method as claimed in claim 55, wherein said biller applies said payment made by said customer against said invoice as of said date and time said customer makes said payment.

Claim 95 (cancelled)

Claim 96 (previously added): A method as claimed in claim 75, wherein said biller applies said payment made by said customer against said invoice as of said date and time said customer makes said payment.

Claim 97-98 (cancelled)

Claim 99 (currently amended): A method of providing for payment of bills by payors to billers, comprising:

making available to one or more billers a standard format for representing on a printed document data including biller identification and ~~payor account identification~~ a biller account identifier corresponding to said customer;

providing at one or more locations of one or more third parties one or more scanning apparatus adapted to read data in said standard format;

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receiving by electronic transmission from one of said scanning apparatus data comprising third party identification, <u>said</u> biller identification, ~~payor~~ <u>said biller</u> account ~~identification~~ <u>identifier,</u> and payment amount; and

providing information to a payment network to effect transmission of funds from an account of said third party to an account of one of said billers identified by said biller identification in an amount identified by said payment amount and ~~concurrently~~ <u>concomitantly</u> effecting transmission of payment information to said biller<u>;</u>

<u>wherein the only personal information of the customer used in said transfer or transmission of funds is said biller account identifier.</u>

Claim 100 (previously added): A method as claimed in claim 99, wherein said payment information comprises the date and time said payment is made.

Claim 101 (newly added): A bill payment system comprising:

a biller generating at least one invoice for at least one customer, said invoice comprising a unique bar code, said bar code comprising at least biller identification data and a biller account identifier corresponding to said customer; and

a scanning apparatus configured to scan said bar code, said scanning apparatus being capable, based on the identifying data of said bar code and a payment made by said customer, of transmitting or initiating transfer of funds to said biller in a predetermined amount and concomitantly transmitting or initiating transfer of data to said biller regarding said payment;

wherein the only personal information of the customer used in said transfer or transmission of funds is said biller account identifier.

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Claim 102 (newly added): A system according to claim 101, wherein said funds are transmitted or transferred as an electronic funds transfer.

Claim 103 (newly added): A system according to claim 101, wherein said funds are transmitted or transferred via the Automated Clearing House.

Claim 104 (newly added): A system according to claim 101, wherein said bar code comprises a plurality of validation levels.

Claim 105 (newly added): A system according to claim 101, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

Claim 106 (newly added): A system according to claim 101, wherein said apparatus is integrated into a point-of-sale system.

Claim 107 (newly added): A system according to claim 101, wherein said apparatus is in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 108 (newly added): A system according to claim 101, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 109 (newly added): A system according to claim 101, wherein said data identifying said biller is assigned by a central registry authority.

Claim 110 (newly added): A system according to claim 101, wherein said apparatus is configured to print a receipt evidencing said payment.

Claim 111 (newly added): A bill payment method comprising:

generating an invoice for at least one customer, said invoice comprising a unique bar code, said bar code comprising at least biller identification data and a biller account identifier corresponding to said customer; and

permitting a third party to scan said bar code and, based on the identifying data of said bar code and a payment made by said customer, to transmit or initiate transmission of funds to said biller in a predetermined amount and concomitantly transmit or initiate transmission of data to said biller regarding said payment;

wherein the only personal information of the customer used in said transfer or transmission of funds is said biller account identifier.

Claim 112 (newly added): A method according to claim 111, wherein said funds are transmitted or transferred as an electronic funds transfer.

Claim 113 (newly added): A method according to claim 111, wherein said funds are transmitted or transferred via the Automated Clearing House.

Claim 114 (newly added): A method according to claim 111, wherein said bar code comprises a plurality of validation levels.

Claim 115 (newly added): A method according to claim 111, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

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Claim 116 (newly added): A method according to claim 111, wherein said scanning is performed at a point-of-sale system.

Claim 117 (newly added): A method according to claim 111, wherein said scanning is performed in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 118 (newly added): A method according to claim 111, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 119 (newly added): A method according to claim 111, wherein said data identifying said biller is assigned by a central registry authority.

Claim 120 (newly added): A method according to claim 111, further comprising printing a receipt evidencing said payment.

Claim 121 (newly added): A bill payment network comprising:

a plurality of billers, each said biller generating an invoice for at least one customer, said invoice comprising a unique bar code, said bar code comprising at least biller identification data and a biller account identifier corresponding to said customer; and

a plurality of third parties in communication with said billers, each said third party capable of scanning said bar code and, based on the identifying data of said bar code and a payment made by said customer, of transmitting or initiating transfer of funds to said biller in a

predetermined amount and concomitantly transmitting or initiating transfer of data to said biller

regarding said payment;

wherein the only personal information of the customer used in said transfer or

transmission of funds is said biller account identifier.

Claim 122 (newly added): A network according to claim 121, wherein said funds are

transferred or transmitted as an electronic funds transfer.

Claim 123 (newly added): A network according to claim 121, wherein said funds are

transferred or transmitted via the Automated Clearing House.

Claim 124 (newly added): A network according to claim 121, wherein said bar code

comprises a plurality of validation levels.

Claim 125 (newly added): A network according to claim 121, wherein said data

comprises the date and time said customer makes said payment or the place said payment is

made.

Claim 126 (newly added): A network according to claim 121, wherein said third

party is capable of performing said scanning using a point-of-sale system.

Claim 127 (newly added): A network according to claim 121, wherein said third

party is in a location selected from the group consisting of: grocery store, convenience store,

supermarket, chain store, post office, drug store, government office, location where goods are

sold, location where services are sold, and retail store.

Claim 128 (newly added): A network according to claim 121, wherein said bar code

is in a location selected from the group consisting of: on the front of said invoice, on the

reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 129 (newly added): A network according to claim 121, wherein said data identifying said biller is assigned by a central registry authority.

Claim 130 (newly added): A network according to claim 121, wherein said third party is configured to print a receipt evidencing said payment.

Claim 131 (newly added): A bill payment method comprising:

receiving an invoice from a biller, said invoice comprising a unique bar code, said bar code comprising at least biller identification data and a biller account identifier corresponding to said customer; and

permitting a third party in communication with said biller to scan said bar code and, based on the identifying data of said bar code and a payment made by said customer, to transmit or initiate transfer of funds to said biller in a predetermined amount and concomitantly transmit or initiate transfer of data to said biller regarding said payment;

wherein the only personal information of the customer used in said transfer or transmission of funds is said biller account identifier.

Claim 132 (newly added): A method according to claim 131, wherein said funds are transferred or transmitted as an electronic funds transfer.

Claim 133 (newly added): A method according to claim 131, wherein said funds are transferred or transmitted via the Automated Clearing House.

Claim 134 (newly added): A method according to claim 131, wherein said bar code comprises a plurality of validation levels.

Claim 135 (newly added): A method according to claim 131, wherein said data comprises the date and time said customer makes said payment or the place said payment is made.

Claim 136 (newly added): A method according to claim 131, wherein said scanning is performed at a point-of-sale system.

Claim 137 (newly added): A method according to claim 131, wherein said scanning is performed in a location selected from the group consisting of: grocery store, convenience store, supermarket, chain store, post office, drug store, government office, location where goods are sold, location where services are sold, and retail store.

Claim 138 (newly added): A method according to claim 131, wherein said bar code is in a location selected from the group consisting of: on the front of said invoice, on the reverse of said invoice, detachably printed on said invoice, and on a separate piece of paper from said invoice.

Claim 139 (newly added): A method according to claim 131, wherein said data identifying said biller is assigned by a central registry authority.

Claim 140 (newly added): A method according to claim 131, further comprising printing a receipt evidencing said payment.

Claim 141 (newly added): A method of performing a financial transaction in a network, said method comprising the step of:

in an electronic funds transfer, inserting one or more data elements into one or more of a customer name field and a user designated discretionary field corresponding to the formal data format specification for a remitted payment record in the Automated Clearing House,

wherein said data elements comprise one or more of: a local retail transaction number providing traceback information either as a reference link back to a store transaction log or as a reference link back to an electronic transaction database; and the place and/or date and/or time a payment is made.

Claim 142 (newly added): A method of performing a financial transaction in a network, said method comprising the step of:

in an electronic funds transfer, inserting one or more data elements into a customer name field corresponding to the formal data format specification for a remitted payment record in a payment network,

wherein said data elements comprise one or more of: a local retail transaction number providing traceback information either as a reference link back to a store transaction log or as a reference link back to an electronic transaction database; and the place and/or date and/or time a payment is made.

INTRODUCTORY COMMENTS

On March 3, 1858, the U.S. Patent Office granted Patent No. 19,783 to Hymen Lipman for inventing the prototype modern day pencil. In just the past 50 years alone, generations of students have taken millions of mark-sense scholastic aptitude achievement tests that mandate the use of the standard No.2 lead pencil. In his patent, Hymen Lipman combined two basic and proven elements of then-technology, the lead pencil and India rubber erasing material, to formulate a more useful writing instrument.

In the same manner as Lipman, Applicants teach a retail bill payment paradigm that constructs from available, simple, lowest common denominator and proven technology components an efficient consumer electronic bill payment service. Prior art references teach only partial elements of Applicants' invention and fail to provide any motivation for arriving at Applicants' invention using such technology components. Applicants combine a set of unique elements into a single comprehensive end-to-end customer-to-biller payment solution that works for the equal benefit of all participating parties – the consumer, the retailer, the payment network and the biller. Prior art references imply an expedient delivery process by virtue that electronic means are employed to transmit customer payment data to billers. However, these references overlook the fact that there are banking delays in acquiring good payment funds through the separate financial network that accesses customer bank accounts, which all customers must have as a basic and mandatory requirement, in order to participate. Further, other, more convenient customer payment instruments, such as cash, debit cards or credit cards, cannot be accommodated. Added to the payment funds procurement delay, there is the additional reconciliation delay introduced whenever payment data and payment funds are

delivered separately to the destination biller. As a prudent business practice, billers generally do not immediately apply received customer payment data to their accounts receivable until all payment fund totals are reconciled against the payment data batches.

To aid the Examiner in understanding the context of Applicants' invention and the deficiencies of the prior art, Applicants have chosen to provide the following additional detailed background information:

Brief Bar Code Technology Review

Bar code technology has been developed for various data acquisition purposes since the mid- to late-1950's when it was first used to track cars for the rail industry. Commercial use of bar codes first began with grocery carton scanning for converyorized order picking at distribution centers in early 1970. In 1972, Universal Product Code (UPC) bar codes started appearing on retail products that were scanned at the supermarket checkout aisle. The UPC symbology is a fixed length bar code format that encodes 11 characters with a 12th character check digit. The UPC symbology is intended for use only in the structured environment of retail point of sale. Until recently, these scanners at retail point of sale were limited to reading this single, fixed length, 12-digit bar code. Recent industry standards, including the latest POS scanning hardware and application software, have been revised to incorporate a new two-segment bar code format, consisting of the standard UPC segment and a short Code-128 segment, which are most frequently found on retail discount coupons. They also now read standalone Code-128 bar codes.

Code-128, introduced in 1981 by Computer Identics Corporation as AIM Standard USD-6 (copy attached hereto), is one of the more advanced linear bar codes used in industry today because it–

- Can encode all 128 ASCII characters without cumbersome encoding procedures

- Uses the least amount of label space for messages of 6 or more characters

- Was tested to be the most easily read code with the highest message integrity, due to several separate message check routines

- Has a double density mode to encode pairs of numeric characters within the symbology.

- Employs special use control characters, one of which relates to processing multiple bar code segments for later data concatenation with Application Identifiers segment markers.

In January 1993 and later revised in July 1995, the Uniform Code Council issued a formal set of industry standards and conventions to define the use and allocation of Application Identifiers (http://www.uc-council.org/reflib/00403/d30-t.htm).

During the invention process, Applicants examined the UCC Application Identifier (AI) industry standard framework for bill payment use at retail. Applicants discarded this industry standard framework for the primary technical reason that segmented data structures are not recommended for general application use, as per the Code-128 specification directive (**AIM Inc. ITS/99-005** – Page 12, Section 4.3.4.3b) and because current retail Point-of Sale (POS) hardware scanners and POS software retail applications can not process Code-128 FNC1 AI or FNC2 segmented bar code structures. Current commercially available bar code scanners cannot read and concatenate Application Identifier bar code segments automatically. Separate physical bar code scans have to be performed for each segment, in conjunction with additional

application software to validate and check that all required segments have been scanned before the next checkout item can be processed. And so, Applicants opted for and teach in their specification an enhanced atomic bar code format that incorporates the biller identification and biller customer account number in a form can be read by even the lowest common denominator technology scanners found and used in the retail industry today.

Payments at Retail

As explicitly taught in Applicants' specification (p. 11, lines 1-5),

> With the proliferation of the Universal Product Codes (UPC) that are imprinted on every retail product today, an infrastructure for processing bar coded information is already in place. At supermarkets, bar code scanners at all the checkout aisles are used to register the sale of all items for inventory and pricing purposes.

Not explicitly taught, however, but well known by those skilled in the art, are the various methods of payment at retail available to the customer for goods and services purchased, which also apply to Applicants' proposed bill payment paradigm. Retailers commonly accept customer payments for goods and services in four possible forms – cash, check, debit card or credit card. Three of these payment forms can be immediately reduced to cash equivalents if the retailer employs the proper and prudent business verification procedures. For checks, most retailers will only accept a personal check from their store membership club customers or customers presenting a valid local business / enterprise payroll check. These checks are processed through any number of check guarantee services that validate them against several negative databases for a nominal fee, ranging from about $0.05 to $0.15 per item. Upon successful verification, the check guarantee service then assumes all the loss liability of that check. Debit cards and credit cards are validated by the bank network that "owns" that

particular customer's card. Depending on the type of card, the card processing fees can range

anywhere from a flat rate of $0.29 to 2-3% of the purchase amount. Upon successful

verification, all funds are remitted to the retailer from the banking network at the end of that

business day. The retailer accepts these item verification costs as an overall cost of doing

business to retain the loyalty and future retail business of that customer. These customer

presented payment forms that are quickly reduced to cash or directly deposited cash

equivalents can then be immediately dispersed to replenish inventory. Since these check / debit

/ credit card validations occur in real-time at the time of purchase, there is no need for the

retailer to store any of the customer's personal financial information that could possibly be

hijacked later. The only information stored is the validating authority's authorization number

for that retail transaction and the payment amount authorized. Other bill payment networks

require that customers pre-register with their personal data and bank account information that is

stored for future use, somewhere in their network. Customers, utilizing these payment

networks, have no control over where their personal / financial information is stored and what

security procedures are in place at these unknown data storage locations, to prevent

unauthorized access and possible later fraudulent use.

In some embodiments of Applicants' invention, for bill payments collected from

customers at retail, these cash or reduced cash equivalent funds are available to be remitted to

the intermediary payment network at the next Automated Clearance House (ACH) network

collection sweep that occurs in the early morning hours and are generally completed by 6 AM

of every business day, including Saturday. These payment funds can either be "pushed" by the

retailer or "pulled" by Applicants' taught payment network, depending on the retailer's

threshold security requirements. Payment data is collected periodically throughout the day from the Data Collection Network Interface (DCNI) controller device that is externally attached to the Retailer Back-end Host Processing System which listens for specific bill payment transactions and a telephone line that can dial out to the payment network host processor. Thus, the end-user customer who wishes to pay his bills at retail using Applicants' invention does not need to divulge personal financial information, nor have a computer, nor subscribe to any electronic bill presentment / payment (EBPP) programs, nor have Internet access, in order to pay his bills electronically and faster than with other commercially available electronic remittance payment systems today. The retailer, who already has the equipment configuration to process bar codes for his retail products, needs only to install one store data collection hardware device, costing less than $300, to process customer bill payments at the checkout aisle with any form of customer choice payment instruments. Please see the attached article entitled "**High Finance – Down and Dirty**" by Chris O'Malley that describes the awkward use and poor performance that is typically encountered when using the current crop of today's commercially available subscriber electronic bill payment systems.

Receipt of Payment

All business conducted today in the United States operates under the general umbrella of the Uniform Commercial Code rules. While the Uniform Commercial Code doesn't explicitly require that billers send their customer invoices via First Class mail, it does require that customers must remit their payments via U.S. Post Office First Class mail. This is the minimum requirement towards satisfying the biller specified terms and conditions of recognizing the formal receipt of a customer payment. These terms and conditions are usually

found defined in small print on the reverse side of most customer invoices. Thus, in the

physical world of mailed invoices and payments, the question then becomes: "At what point in

this remittance process is the precise date and time of a customer payment to a biller

universally recognized as complete?" Is it:

- When the customer writes a check for the payment amount and seals it in an envelope
  with the remittance stub?

- When the customer drops the payment envelope in a U.S. Post Office mailbox?

- When the payment envelope is postmarked by the U.S. Post Office?

- When the payment envelope is picked up or delivered by the U.S. Post Office to the
  biller?

- When the payment envelope is opened and processed at the biller or the biller lockbox
  facility?

- When the customer check for the payment is deposited at the biller bank?

- When the customer check for the payment is cleared and processed through the
  Federal Reserve banking system back to the customer bank of origin?

At the very least, the biller would probably contend that he is not in physical control of the

customer payment until it reaches his physical premises. At the other extreme, the biller might

contend that he is not in formal receipt of the customer payment until the customer payment

instrument (check), completely clears through the banking system because the customer might

not have the necessary funds in his account to cover the check stated amount. More

realistically, it is somewhere in between.

From the customer perspective, the customer would probably contend that the moment

his check is sealed in the envelope is the date and time of his payment because his payment

instrument (check) is his legal commitment to remit those funds to the biller. At the very least,

the customer would contend that his payment should be credited as of the envelope postmark

time and date because the U.S. Post Office is the mandated delivery agent to the biller. While

the customer might not acknowledge that delivery time is a significant delay factor in this

payment paradigm, the customer has no clue of the additional biller physical remittance

processing times or delays incurred at the biller premises. And the customer generally suspects

intentionally injected time delays if financial penalties can be assessed for late payments.

Please see the attached article **"Credit-Card Firms Collect Record Levels of Late Fees"** by

Ron Lieber that describes the lucrative profits associated with late payments. The customer has

no visibility as to whether any of his payments were deliberately held due to artificially

constructed payment processing backlogs.

Unless customer payments are delivered directly to biller maintained or biller sponsored

collection agents, there is no commonly accepted universal agreement as to when a physical

customer bill payment is technically delivered and received by the biller for customer account

credit. Exacerbating the inherent customer suspicion and distrust of the biller as to the actual

time and date of payment receipt by the biller are the uncontrollable and unpredictable time

delays introduced by independent third parties, namely the U.S. Post Office and the national

banking system check clearing organization.

However, if payments are remitted electronically, Federal Reserve Bank Network

Regulation Z, Section 226.10 provides a more precise definition than the general set of

Uniform Commercial Code rules as to when a biller should credit a customer's account:

Sec. 226.10 Prompt crediting of payments.

(a) General rule. A creditor shall credit a payment to the consumer's account as of the date of receipt, except when a delay in crediting does not result in a finance or other charge or except as provided in paragraph (b) of this section.
(b) Specific requirements for payments. If a creditor specifies, on or with the periodic statement, requirements for the consumer to follow in making payments, but accepts a payment that does not conform to the requirements, the creditor shall credit the payment within 5 days of receipt.
(c) Adjustment of account. If a creditor fails to credit a payment, as required by paragraphs (a) and (b) of this section, in time to avoid the imposition of finance or other charges, the creditor shall adjust the consumer's account so that the charges imposed are credited to the consumer's account during the next billing cycle.

The operative phrase "...A creditor shall credit a payment to the consumer's account as of the date of receipt..." defines the timeframe and subsequent action of the creditor's responsibility to formally acknowledge payment receipt and to credit the customer's account accordingly.

The United States Federal Reserve ACH Network provides the basis of a national backbone infrastructure for a reliable electronic payment network to which every bank in the nation is connected and, by extension, every biller who maintains a bank account to receive customer remitted payments. Applicants use this proven technology to extend, in favor of the customer, a commitment by the biller to universally recognize the place, time and date of a bill payment consummated at retail as the formal benchmark receipt of payment by the biller. The "quid pro quo" for this universal recognition is the commitment by the payment network to deliver "good" payment funds and accurate customer payment data quickly and directly into a biller's deposit account via the Federal Reserve ACH Network.

In certain embodiments of the invention, Applicants use the simple and proven technology of the printed receipt at retail to establish this common and recognized agreement between the customer and the biller to affix the precise time and date of a bill payment. That

universal benchmark is defined to be the time and date that a customer consummates his

payment at retail. The printed receipt place, time and date of payment can be made available to

the customer in take-away physical form and also available to the biller in "electronic

postmark" form in the *Customer Name* and *Discretionary* data fields of his electronic ACH

remittance, as taught by Applicants. By including this information in the ACH remittance data,

the biller has all the necessary information available with which to measure and to establish

concrete service level payment data and funds delivery benchmarks with the payment network

provider. A biller would not concede a customer payment time and date as a biller receipt of

that customer payment unless it could be contractually committed, physically possible and

absolutely verified to occur within a discrete timeframe or interval. Applicants' specification

illustrates and describes in detail the complete customer-to-biller payment data and funds

electronic delivery process that is well within the constraints of technically proven elements.

The Examiner states at p. 7, second paragraph of the Official Action:

> Official notice is taken that printing receipt of payment at the location of payment is
> [an] old and well known business practice. It would have been obvious to one of
> ordinary skill in the art at the time of the claimed invention to implement printing a
> receipt for the payment since it would serve as proof of payment and other records as
> deemed necessary by the customer.

While the printed receipt contains proof-of-payment to the customer, it also contains other

transaction information that can be relayed to the biller for independent verification of payment

without the need to see a physical receipt, which, electronically faxed or transmitted to the

biller as confirmation, could be forged or fraudulent. Thus, this printed customer receipt

provides a universal reference of bill payment place, date and time reference for the customer

that is accepted by the biller as a very precise definition of Regulation Z, Section 226.10. No

other bill payment paradigm explicitly uses the printed customer receipt to establish an absolute customer payment place, date, time benchmark that is recognized by the biller as standard data remission items. No other bill payment paradigm explicitly uses the printed customer receipt to establish a payment network contractual service level delivery benchmark of both payment data and payment funds. These benchmarks cannot be implemented with such precision within the current context of prior art paper-based bill payment or any electronic bill payment paradigms today.

The precision of prior art electronic payment networks is only to the reconciliation *date* that the payment information is electronically received and matched with corresponding "good" funds. There is no technical way to acquire actual customer payment dates and committed "good" funds at their point of origin. The industry's prior art and legacy remission data formats do not contain explicitly reserved data fields for this purpose nor do they indicate or suggest any existing data fields for this alternative use.

The precision of current electronic payment networks to acquire accurate customer payment data is also compromised by the fact that customer account information is gathered by a variety of techniques ranging from human transcription, which has a very low accuracy, to electronic bill presentment / payment (EBPP), which has a very high accuracy. Even with the additional overhead of customer account data verification before remission to billers, payment data error rates as high as 3% are encountered in today's prior art payments industry. Applicants' specification teaches a bar code format that is used primarily to disambiguate payment data bar codes from others appearing on a customer remittance invoice, which has an effective minimum error rate in the range of 1:30 billion. Empirical data from Ohio University

regarding the data error rates of various bar code types demonstrates that Code-128 has measured error rates that range between 1:2.8 million and 1:37 million reads.

Well-Known Computer and Computing Techniques

Assigning aliases, pointers or more specifically biller identification numbers, relative to one or more arbitrary data bases, as a shorthand form to represent a larger chunk of data, such as the complete set of biller details (name, address, telephone, contact person, depository name and account number, etc.) is an old, well-known and common data processing technique. Whereas others teach referencing or binding their scheme of biller identification numbers to well-known and established business databases, that static scheme does not necessarily accommodate the different and varying needs of billers. For instance, a Dun & Bradstreet database might define a single biller reference identification to Pacific Bell, as a single business organization. Pacific Bell just happens to have two mail remittance payment processing centers – one for Northern California extending down to Bakersfield and the other for Southern California extending up to Bakersfield. For whatever reasons or decisions that are probably rooted in the past, there are two different remittance bank accounts for internal operational purposes. Allstate Insurance has seven different remittance processing centers located throughout the United States. Thus, any payment network must be flexible enough to handle multiple or one-on-one biller identification number assignments of a single business organization to accommodate the unique needs of every individual biller's accounting and data processing schemes.

Pre-Electronic Bill Presentment / Payment (EBPP) Systems

Until the explosion of credit that was specifically targeted to the mass market that occurred sometime in the late 1970's and early 1980's, there was not as much pressure to accelerate the cash flow to the billers' Accounts Receivables as today. Credit cards were issued only to creditworthy customers whose ability to pay had already been demonstrated in one form or another (previous large loans or mortgage payment records). Up to about 1972 or so, American Express had a minimum $10,000 per year income requirement to qualify for its credit card. And for the most part, most of these customers paid on time. For the regulated utilities market that had to serve everyone by public mandate, these utilities could build a slow customer payment cycle financial increment into their broader customer base financial models to justify their requested electric / gas / telephone rate structures to the controlling oversight Public Utilities Commission. These higher rates, that incorporated the higher costs incurred by the slow paying customer elements, were amortized (and effectively buried) across the whole utility customer base.

The advent of mass-market credit, with lower qualifying credit standards, brought with it more problems to be solved. The increased percentage of credit defaults necessitated the need to tighten cash collection policies as one possible way of mitigating the financial losses incurred. Prior to the advent of the Internet, there were only minor incremental improvements to the paper-based mailed bill payment paradigm. None of these improvements emphasized time as a quantifiable customer deliverable, although each mechanism advertises electronic transmission of customer payment data to the destination biller bank to imply expedient

delivery -- no estimate of time or data delivery commitment timeframes are (or can possibly be) explicitly stated in their respective specifications, e.g.:

- Thompson et al., U.S. Patent No. 5,121,945, teaches a Financial Data Processing System that remits, along with the customer invoice, a pre-printed customer payment instrument (bank check) or other customer selectable payment option, such as credit card charge number. This invention attempts to simplify biller remittance processing. The customer must divulge personal financial information to the biller beforehand (and stored somewhere within the biller organization under uncertain / unknown security conditions) so that this information can be pre-printed on subsequent printed monthly invoice payment instruments.

- Comer et al., U.S. Patent No. 5,596,501, teaches a System for Dispensing Fuel at Remote Locations and Method of Operating Same that is a data collection method of recording transaction date and time, as a prudent business procedure. Comer fails to teach how this date and time data is delivered to the destination biller. As stated previously and again reiterated here for absolute clarity, the industry current and legacy remission data formats do not contain explicitly reserved data fields for payment date and time information nor is it indicated or suggested that any of the existing data fields can be used for this alternative.

In summary, these manual pre-EBPP systems incrementally speed up the processing of customer bill payments by electronic data delivery and pre-printed payment instruments at the expense of remitted customer account data errors, depending upon how that customer-biller account data was acquired, and divulged personal financial information to the biller invoice printing process. The quantitative advantage and / or convenience that these systems offer the end-user customer is not entirely clear from these specifications, given the high overhead of set-up, over the traditional mailed based biller remittance processing systems. It is clear, however, that these systems are probably more expensive to use because of the intermediate equipment and network costs that are required to process and to transport the customer payment funds and payment data to the biller.

Electronic Bill Presentment / Payment (EBPP) Systems

With the advent of the Internet, it was only natural that integrated bill presentment / payment systems would be conceived that would attempt to deliver invoice information as well as to receive payment information electronically with the goal of reducing the total overhead cost of customer billing and collection services. Collectively, this type of service is commonly known as electronic bill presentment and bill payment (EBPP).

For the first time, 60 percent of the U.S. population has access to the Internet, either from work or home, according to the latest figures from NetRatings, Inc in an article by Tim McDonald, NewsFactor Network, dated 2/14/01. In spite of this high penetration rate, there is a significant percentage of the general population that will never have Internet access. Of the people with Internet access, there is a significant percentage of this group who do not and will not trust it to the extent of paying their bills electronically because of all the real and perceived security issues regarding their personal financial information that has to be divulged to these payment services. These two groups will still have to be served by the paper-based billing systems in place today if no other viable choice is available to them.

The bulk of the cost of paper-based billing remittance systems lies in the physical paper handling of bill payment collection and processing systems. It is a multi-step physical paper handling process that involves collection, opening, recording and depositing of customer payments. If any of these payments are subsequently found to be bad, then there are the additional and expensive one-on-one labor processes of contacting the customer and resolving that payment situation. Various industry statistics cite paper handling costs per bill that range from $1.75 to $3.00 and customer contact labor costs in the range of $29 per incident.

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Depending on the delinquency rate of the customer base and how well or poorly this collection process is managed; these accumulated overhead costs can be high, significantly affecting the bottom-line profitability of any business.

EBPP has been adopted by some billers in a quest to reduce bill payment collection costs for the bulk of their payments for which there are no problems, thus reducing the paper handling per item cost that ranges between $1.75 and $3.00 to something less than that amount. EBPP does not solve the more expensive bill collection problems incurred by delinquent payers who do not have the wherewithal to pay their bills. EBPP does not address the large segment of the general population that does not trust the Internet with their financial information. EBPP does not address the large segment of the general population that will never have access to the Internet because of their illiteracy (computer or otherwise), their disadvantaged situation or their preference to remain hidden in the underground cash economy.

For the small segment of customers choosing to participate in an EBPP system (today – ranging from 3-6% depending on the data source cited) that have been outlined in their respective specifications, three or more of the following restrictions are commonly encountered:

- Traditional paper invoices are discontinued when a customer subscribes to an Electronic Bill Presentment / Payment (EBPP) system

- Customer must specifically request the biller to divert a normally remitted paper invoice to a specific EBPP network to which the biller may or may not have a connection / subscription

- Customer must have an affiliated bank account with a financial institution to effect a payment credit to a biller or to permit a biller initiated payment debit

- Customer has no alternative payment instruments such as cash, check, debit or credit card

- Customer must have access to computer equipment, special programs and access to an electronic network in order to receive and to view electronic bill presentment information and to formulate payment instructions to effect electronic bill payment to the biller

- Customer personal financial information is divulged to the payment network or to the biller. This is a very high security risk to the customer because it is not known exactly the various locations where this sensitive information is stored and what information security procedures are employed to guard against unauthorized access and potential fraudulent use that is virtually untraceable later (i.e. local or remote hackers)

- Biller or biller financial institution has to have special resources to convert paper invoice information into a specific EBPP format or procure the equivalent services from a third party vendor

- Biller or biller financial institution has to have special resources to convert proprietary payment data remitted from a payment network into a format suitable for application to the biller's Accounts Receivable data base

- Actual Customer Time and Date of Payment is not remitted to the biller because the most common payment data formats employed throughout the industry today do not contain explicitly reserved data field for this purpose in their remission format.

- Customer payment funds and payment data are generally not coincident – payment data travels through public or private networks and customer funds are procured and remitted via a separate financial network. Therefore, reconciliation delays occur and customer payment data is not applied to billers' Accounts Receivable database until matching "good" funds have been received.

- Most, if not all, payment networks commercially available today commonly advertise that bills, paid through their network, take four to five days to process.

- Customer payment data can contain a high level of errors where this data is not acquired through mechanical means and refreshed frequently. Most data is generally acquired with human transcription and is not refreshed until customer payments go awry because the biller has changed the biller customer account number because of new services added or deleted.

- Private networks may not have the same level of surety oversight as the Federal Reserve ACH Network.

Advantages of Applicants' Invention

Applicants formulate many elements into a complete bill payment paradigm with universal accessibility and no restrictions to all who wish to participate. The non-obvious combination of all these elements into one cohesive strategy is found in none of the references cited by the Examiner, e.g.:

Customer Value Propositions

- Customers can pay bills electronically as any other retail item

- No customer pre-authorization or prior subscription required

- Available at common and local retail establishments

- Choice of cash, check, debit or credit card payment

- Printed receipt is an immediate Regulation Z, Section 226.10 standard common place / date / time benchmark of acknowledged payment delivery to biller from customer

- Can revert to traditional mailed payment method at any time with no prior notification to the biller or subscription payment network

- No personal financial information divulged to bill payment service, therefore, there are no personal privacy issues to contend with

- Accurate bill payment information acquired and frequently refreshed through reliable mechanical means via the enhanced bar code format

Retailer Value Propositions

- Bill payments processed in same manner as other bar coded retail goods with little or no extra labor effort at the checkout aisle

- New service / affinity program with which to attract retail customers

Biller Value Propositions

- No subscription or additional effort to participate in an Electronic Bill Presentment / Payment (EBPP) program

- Does not alter current business collection paradigm

- Only requirement to participate is to print a retail bar code anywhere on the customer bill payment invoice (biller choice of placement)

- Saves having to provide PUC mandated in-person payment centers for the disadvantaged

- Good payment funds electronically deposited into designated bank account

- Simultaneous payment funds / payment data delivery to biller bank

- Nearly zero payment data errors – all data acquired with electronic scanners

- Common postmarked customer payment place / date / time benchmark with payment data

- Common postmarked service delivery place / date / time benchmarks for funds / data delivery

- No customer checks to process – saves time and bounced bad check penalties

- Payments can be delivered in a possible 24-36 hour timeframe via the standard Federal Reserve ACH Network delivery mechanism

Other Value Propositions

- Use of the lowest common denominator financial network, the Federal Reserve ACH Network, to expediently deliver customer payment data and payment funds, coincidentally, to the biller. Every biller with a deposit bank account has access to this network – no additional subscription necessary.

- Customer payment place / date / time information is taught, using the standard ACH Network CIE record type *Customer Name* and the *Discretionary* data fields

- Bar code disambiguation where multiple bar codes may co-exist on a biller's invoice for different biller use purposes

- Customer electronic bill payment without the overhead of coupled electronic bill presentment and other cumbersome EBPP requirements

Additional Comments Regarding Powar (U.S. Patent No. 6,438,527)

The Powar specification does not employ commonly available technology to teach his invention. PostNet bar codes (circa 1980 – Please see attached **United States Post Office Publication 25, Chapter 4**) are used to illustrate his invention, whereas Code-128 bar codes

(also circa 1981 – Please see attached **USD-6 Specification from AIM**) would have been more appropriate when the Powar specification was authored in 1995. Both technologies were very mature and fully defined, in terms of commonly accepted industry and international standards. The Powar specification teaches the use of multi-line and multi-segmented bar codes with a technology that clearly does not support these capabilities. Nor is it likely that the PostNet technology can support the required information density of all the Powar specification proposed optional fields, such as payment due date, amount due, error correction and detection data, and the biller identification and customer-biller identification without a lot more required linear space than can be found on a typical bill head. In any case, the Powar specification does not teach any methods or procedures of how these details of implementation might be accomplished within the constraints of the limited physical space available on a typical customer bill invoice.

The Powar specification is similar in some ways to Applicants' invention, but it fails to adequately describe front-end areas of strategy and crucial details of implementation. The back-end payment network (VisaNet®) that delivers customer payment data and payment funds to the biller suffers some of the traditional problems of EBPP networks, namely, time delay acquisition of customer funds from bank accounts from one network and separate delivery to the biller of customer payment funds and payment data by another network. These problems contribute to yet additional reconciliation delays at the biller receiving end when data and funds have to be matched before applying this customer payment data to Accounts Receivable.

In terms of strategy, the Powar specification just assumes that his designated universal encoding region (304) can be unilaterally hijacked for the sole use his bar code specification. This strategy might work for a new biller printing his formatted bills for the first time, using Powar's specification. This strategy will, most likely, not work for a legacy biller unless that biller is committed to a rather large investment of replacing all his old OCR based paper remittance handling / processing equipment, which generally uses that same physical space on the invoice with new bar code reading equipment, in one quick transition. The very low density bar code, used in his illustration, does not permit the coexistence of old Optical Character Recognition (OCR) data and a new bar code data format, and thus, does not permit a smooth transition strategy for a biller contemplating a change from an older OCR processing method.

In terms of crucial details of implementation, the Powar specification illustrates in Figure 3 and describes in text (col. 4, lines 31-49) a sample biller invoice according to his specification embodiment. Earlier (col. 2, lines 52-64), it is stated that the data capture of the biller identification and customer-biller account number is assisted by machine-readable information in a "standardized format". The Powar specification fails to describe even the rudimentary details of his envisioned embodiment, which suffers many technical deficiencies –

- The Powar specification fails to teach the details of a biller identification and customer-biller account number standardized format (col. 2, lines 57-59). For as long as there have been paper biller invoices sent to customers, every biller invoice is unique in terms of where on the invoice the customer account number is printed, what that customer account number comprises (numeric, alphanumeric characters), how long that customer account number can be and what other biller specific data and information is contained therein.

- Powar fails to illustrate a consistent convention of his own design that different billers could / should use to encode biller optional specified data elements into a customer-biller account number standardized format (col. 2, lines 57-59).

- The Powar specification illustrates using a bar code (PostNet circa 1980) example that raises more questions than answers, specifically –

  - PostNet is defined a numeric only bar code whereas some biller customer numbers are alphanumeric.

  - PostNet is not defined in its formal specification to be a multi-line, multi-segment bar code and Powar fails to teach by which convention of his own design this limitation can be mitigated.

  - PostNet is a very low-density bar code that may not have the capacity to represent the amount of information as specified by the Power specification. PostNet requires 3 inches of linear space to represent 11 digits; thus two lines comprising a total of 12 inches of linear space on a typical invoice would only yield 44 digits. Powar does not describe the allocation of this limited information storage resource to accommodate all the proposed uses described in the specification.

Had Powar chosen to illustrate his example with the Code-128 bar code representation, the

above questions would have been mitigated, except for one – segmented data

recombination.

- The Powar specification fails to teach, even had he used Code-128 to illustrate his example, how segmented data recombination would be performed and what marking elements should / would be used to differentiate the data elements. Even in the latest AIM Code-128 specification, it is stated on Page 12 that –

    "...FNC2 (Message Append) instructs the code reader to store temporarily the data from the symbol containing the FNC2 character and transmit it as a prefix to the data of the next symbol. This may be used to concatenate several symbols before transmission. This character may occur anywhere in the symbol. Where the sequence of data is significant, provisions should be made to ensure reading of the symbols in correct sequence. This facility is not recommended for general applications..."

- Having an illustrated example that utilizes a multi-line, multi-segment format, the Powar specification fails to utilize industry standards (UCC/EAN-128 Application Identifier Standard, January 1993, revised July 1995) that existed at the time of specification authorship or document an alternative method that would overcome the

limitations of that industry standard. Had he utilized the Application Identifier (AI) framework, then he should have specified the exact or functionally equivalent AI indexes to be used for the range of his proposed data elements (col. 2, lines 55-60 and col. 4, lines 50-58) because implementing his scheme within this framework would not be an intuitive exercise for one skilled in the art and could not be achieved even by routine experimentation.

In addition to the above-mentioned technical deficiencies, Powar suffers from many of the same problems of other EBPP solutions regarding the backend delivery of payment data and payment funds to the destination biller, including:

-The customer must have a bank account(s) with a financial institution to effect a payment credit to the biller or to permit a biller initiated payment debit.

-The customer is not provided with payment instrument options such as cash, check, debit or credit cards.

-Customer financial information must be divulged to payment network so that the payment network can aggregate funds from customer account before remission to the biller as long as customer has pre-authorized account debit capability to the payment network.

-The biller has to have special resources to convert proprietary payment data remitted from a payment network into a format suitable for application to the biller's accounts receivable database.

-The actual customer time and date of payment is not remitted to the biller.

-Customer payment data and payment funds are not transmitted to the biller concomitantly.

In light of the foregoing introductory comments and claim amendments, Applicants respectfully provide the following remarks and arguments in support of the patentability of claims 41 through 142:

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